

STATE OF IOWA
DEPARTMENT OF COMMERCE
UTILITIES BOARD

IN RE: MIDAMERICAN ENERGY COMPANY	DOCKET NO. P-844
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ORDER PROPOSING TO TAKE OFFICIAL NOTICE

(Issued July 15, 2002)

On July 12, 2002, Mr. Don Stursma, Manager, Safety & Engineering Section of the Utilities Board (Board), filed a Supplement to the April 26, 2002, Staff Review of MidAmerican Energy Company's (MidAmerican) Petition for Pipeline Permit in this case. Mr. Stursma stated that the report supplements the April 26, 2002 staff report, but does not replace it.

Pursuant to Iowa Code § 17A.14(4)(2001), the undersigned proposes to take official notice of the July 12, 2002, report by Mr. Stursma, and of the facts contained in the report, thus making them a part of the record in this case. Iowa Code § 17A.12(6)(c). A copy of the report is attached to this order. Mr. Stursma will be available for cross-examination regarding his report at the hearing. Any party who objects to the taking of official notice of the report must file such objection as soon as possible, and no later than five days prior to the hearing. The parties will have the opportunity to contest any information contained in the report at the hearing.

MidAmerican must address the remaining issues discussed in the report at the hearing on July 30, 2002.

IT IS THEREFORE ORDERED:

1. The undersigned proposes to take official notice of the report filed by Mr. Stursma on July 12, 2002, and attached to this order, and of the facts contained within the report. Any party objecting to the taking of official notice must file such objection no later than five days prior to the hearing. The parties will have the opportunity to cross-examine Mr. Stursma at the hearing regarding his report, and will have the opportunity to contest any information in the report at the hearing.
2. MidAmerican must address the remaining issues discussed in the report at the hearing.

UTILITIES BOARD

/s/ Amy L. Christensen
Amy L. Christensen
Administrative Law Judge

ATTEST:

/s/ Sharon Mayer
Executive Secretary, Assistant to

Dated at Des Moines, Iowa, this 15th day of July, 2002.

IOWA UTILITIES BOARD

Safety & Engineering Section

TO: File P-844

FROM: Don Stursma

DATE: July 12, 2002

SUBJECT: Supplement to the April 26, 2002, Staff Review of MidAmerican Energy Petition for Pipeline Permit for a Natural Gas Pipeline in Polk County, Iowa.

Background

On January 31, 2002, MidAmerican Energy Company (MidAmerican) filed a petition for pipeline permit with the Iowa Utilities Board for 12.6 miles of 16-inch diameter natural gas pipeline in Polk County, Iowa. The petition was assigned to Docket No. P-844. The filing was amended on March 27, 2002. On April 26, 2002, a staff report entitled "Staff Review of MidAmerican Energy Petition for Pipeline Permit for 12.6 Miles of 16-inch Diameter Natural Gas Pipeline in Polk County, Iowa," was filed in the docket. That report recommended that MidAmerican amend or clarify its filing and prefiled testimony in a number of areas. An order by the Administrative Law Judge (ALJ) assigned to the case, issued May 22, 2002, and titled "Order Establishing Procedural Schedule and Proposing to Take Official Notice and Notice of Hearing," requested further additional information.

On June 12, 2002, in response to the above, MidAmerican filed a revised petition and replaced or amended several petition exhibits, as well as supplemental and new direct testimony. Further revisions to petition Exhibit H were filed on June 27, 2002. In addition, since the prior staff report three additional objections have been filed.

This report will supplement (but does not replace) the April 26, 2002, staff report to address changes in the docket content since that time, to review new and supplemental testimony filed by MidAmerican, consider the new objections, and to examine the responses to issues and questions raised in the prior staff report and in the May 22, 2002 ALJ order.

Petition and Exhibits

Revised Petition. The revised petition filed on June 12, 2002, requests a permit for 12.9 miles of 16-inch diameter pipeline. The prior petition stated 12.6 miles. The change is primarily, but not entirely, due to the addition of a pipe segment in the power plant area in the petition. A more complete discussion is under "Revised Exhibit C." The addition of this pipe segment appears in response to a question raised on Pages 4 and 5 of the May 22, 2002, ALJ order concerning whether the petition on file at that time included all pipelines associated with this project that would require a permit.

Second Revised Exhibit A (Route legal description). The only discernable change was the addition of the aforementioned pipe in the power plant area, and the change in the stated total line length to 12.9 miles. No problems were noted with the revised exhibit.

Second Revised Exhibit B (Route map). The only map page found altered was Page 8. It had previously shown two “Future Gas Service Lines” that were not part of the petition according to the last map, but according to the current map one of those lines is now included in the petition. The line segment now included is on MidAmerican property except for a road crossing. (The road is not named on Exhibit B; Exhibit A identifies it as S.E. 45th St.) The line segment not added to the petition is all on MidAmerican property and crosses no road.

Second Revised Exhibit C (Technical specifications).

a. The prior Exhibit C said both the maximum (actual) operating pressure and the Maximum Allowable Operating Pressure (MAOP) would be 960 psig, and the test pressure would be 1440 psig. The stated test pressure is 1.5 times the 960 psig MAOP as required by federal pipeline safety standards for Class 3 design. The revised petition lists a maximum actual operating pressure and an MAOP of 800 psig, but retains a test pressure of 1440 psig. According to Exhibit F Revised Table 5, 960 psig remains the design pressure for the pipeline even though the proposed MAOP is 800 psig.

Despite the stated 960 psig pressure, MidAmerican had previously indicated it did not expect the pressure delivered by the pipeline supplier, Northern Natural Gas, to exceed 800 psig. As discussed in the prior staff report, the difference between 960 and 800 psig has significant safety implications due to the reduced likelihood that the pipe would rupture if it failed. Staff understands the MAOP of an upstream portion of Northern’s main B-line pipeline, which would supply the MidAmerican line, is to be uprated to 960 psig, but pressure control equipment to be installed on Northern’s pipeline would continue to limit the pressure deliverable to MidAmerican to 800 psig.¹

The pipeline safety regulations adopted by the Board contain nothing that discourages actual pipeline operation at pressures lower than the design pressure at which it could theoretically operate at under the regulations. In any event it appears 800 psig is the maximum that would be available from the pipeline supplier, Northern Natural Gas Co. The principal impact of retaining a design pressure of 960 is that the pipeline would be pressure tested after construction to a higher pressure; 1440 psig versus the 1200 psig that would be required if 800 psig were the design pressure. Therefore the pressure test would be more conservative than the regulations require.

¹ Prefiled direct testimony of Edward Dreesman, Page 17.

b. The new Exhibit C also changes the total pipeline length from 12.6 to 12.9 miles, an increase of 0.3 miles. However, only 0.2 miles is accounted for by the additional pipe segment in the power plant area. In the previous Exhibit C, the pipeline north of the Pleasant Hill city limits consisted of 9.7 miles of 16-inch pipe with a wall thickness of 0.281 inch, and 0.9 mile of heavier pipe with a wall thickness of 0.375 inch, for a total of 10.6 miles. The revised Exhibit C shows 9.6 miles of 0.281 inch and 1.1 miles of 0.375 inch wall pipe, for a total of 10.7 miles - a gain of 0.1 mile. Since nothing in the revised filing shows any route changes in that area, the reason for this change in length is not known.

c. Another change is that the prior Exhibit C showed the pipe coming in lengths of 40 feet, while the revised Exhibit C says 80 feet. Pipe is typically received from the steel mill in lengths of approximately 40 feet,² although it is common practice to weld two 40 ft. sections together after delivery, and bring it out onto the construction right-of-way in 80 ft. “double joints.” It is not apparent why MidAmerican changed this number on Exhibit C.

d. The prior Exhibit C stated the pipe manufacturer would be “American Steel Pipe or equivalent.” The revised exhibit shows the pipe is being purchased from IPSCO.

Exhibits D and E were not refilled or amended.

Second Revised Exhibit F. Changes to Exhibit F itself were to change the pipeline length from 12.6 to 12.9 miles, and some grammatical and clarifying language changes. The new filing also included revised Exhibit F Attachment 2 Tables 5 and 8. The Table 5 revisions reflected a proposed MAOP of 800 rather than 960 psig but retained 960 psig as the design pressure. The new Table 8 reflects the decision to bury the pipeline 5 feet deep through urbanized areas of Pleasant Hill.³ Exhibit F Attachments 1, 1C, 3, and the alternative route map were not refilled.

Third Revised Exhibit H (Eminent Domain). In it’s original petition filing MidAmerican requested the right of eminent domain for 40 tracts of land. The amended filing on March 27, 2002, listed 26 properties, reflecting the attainment of voluntary easements for some tracts. The June 12, 2002, filing lists 15 tracts. This includes two previously unlisted tracts, Tracts 26a and 26b. The new tracts were owned by the State of Iowa⁴ but are now owned by a private party, and easements must now be obtained.⁵

² Pipe lengths, or “joints,” are commonly delivered in 40 foot “double random” lengths, indicating that 40 ft. is an approximate length and actual length may be somewhat more or less.

³ The need for these corrections was noted on Page 15, Conclusions/Recommendations #6, of the April 26, 2002 staff report.

⁴ The previous Exhibit H map indicated these properties were owned by the Iowa DOT.

⁵ Prefiled supplemental direct testimony of Kenneth Schwarz, Page 2.

There is no change in the nature of the standard easement rights being sought. The amendments filed on June 27, 2002, added the Polk County Treasurer as a party with ownership interest for each parcel, and corrected the property boundaries of Tract 32 (Catherine Kyle).

Of the 15 tracts, 11 are currently in agricultural or undeveloped open space land use (Tracts 1, 9, 10, 11, 13, 17, 18, 26a, 26b, 27, 28), two are commercial properties (Tracts 25 and 26), one appears best described as a rural acreage (Tract 32), and one is a property within Pleasant Hill that is in the process of being developed as a residential subdivision (Tract 60).

In the prior staff report it was stated that no objections had been filed by owners of property for which eminent domain is requested. That is no longer the case. Objections have been filed by Catherine Kyle (Tract 32) and by Silver Land Company (Tracts 11 and 13).

Second Revised Exhibit I (Land Restoration). The only discernable change in this refilled exhibit was changing the pipeline length from 12.6 to 12.9 miles on Page 1.

Issues Raised in ALJ May 22, 2002, Order

MidAmerican must address issues raised in objections (Page 3-4). MidAmerican responds to the objections in the prefiled direct testimony of Edward Dreesman, and in the supplemental direct testimony of Kenneth Schwarz. Mr. Dreesman refers to 16 known objections. This apparently refers to the 15 listed in the April 26, 2002, Board staff report plus an additional objection filed by Mr. Dan Fogleman on June 6, 2002.

Staff has nothing new to report on the 15 original objections; none of these persons have filed additional objections, and no objections have been withdrawn. The Fogelman property at 5330 Susan Court in Pleasant Hill is adjacent to the west side of Sunrise Park. The pipeline would not be on his property but would run through the park adjacent to it. Measuring from the Exhibit H map, his property line would be approximately 50 feet from the pipeline and the house approximately 100 feet. Of matters raised that are within the Board's jurisdiction, the prudence of routing a pipeline through a developed area was questioned with safety the overriding concern, including terrorist attack.

Staff will not reiterate the contents of the Dreesman and Schwarz testimony, other than to note that it appears they have attempted to respond the main points of the objections. See also later discussion on security matters.

On Page 26 and 27 of his prepared direct testimony, Mr. Dreesman responds to the complaint of limited notice of the Informational Meeting. Staff adds that under Iowa Code § 479.5 the informational meeting is primarily intended to inform landowners from whom an easement will be sought, and who would have construction occurring on their property, of their rights and remedies. Such landowners receive certified mail notice, but there is also

a published notice. While primarily intended for landowners and/or tenants on the route who might otherwise be missed, this publication also provides notice to other parties who might be interested. There is also the notice of hearing under Iowa Code § 479.7 that provides published notice to all potentially interested persons in the area. These are the procedures established by Iowa law for public information and opportunity for public input.

Mr. Dreesman's testimony was filed on June 12, 2002. Since that date objections have also been filed by Ms. Catherine Kile on June 17, 2002; and by Silver Land Company on June 18, 2002.

Ms. Kile is the owner of Tract 32, a rural acreage north of Pleasant Hill. The right of eminent domain is sought for an easement on this property. The pipeline route is on the electric line easement on this property. According to Fourth Revised Exhibit H-28 the pipeline would be 138 feet east the residence; the center of the existing electric line is approximately 88 feet east. The property also contains several sheds and outbuildings that would be from 132 to 262 east of the pipeline. Her primary allegation is that MidAmerican has not negotiated in good faith for an easement. MidAmerican will need to respond to this objection in supplemental testimony or at hearing.

The Silver Land Company objection was signed by four individuals, all surnamed Silver, who are presumably owners of the company. Silver Land Company owns Tracts 11 and 13, located approximately a half mile north of Interstate 80. According to the Exhibit H map the land is in agricultural land use with no visible buildings. The right of eminent domain is sought for easements on these properties. Silver argues that the project would be disruptive to farm operations, the ecology of the farm, their way of life and the value of the property, plus safety concerns; and that there are other routes that would be less disruptive and affect fewer landowners. The location of the "other routes" is not specified.

MidAmerican will need to respond to this objection in supplemental testimony or at hearing. Staff will not dispute that the construction of a pipeline can be temporarily disruptive, but notes that Iowa law makes significant provisions for agricultural land restoration and payment of damages. It is also noted that while the pipeline on this property would not use pipe as heavy as in Pleasant Hill, it would still be designed to Class 3 (urban) standards.

Explain in greater detail why Route 2 was chosen, particularly in comparison with Route 3 (Page 4).

MidAmerican witness Dreesman discusses the route selection process on Pages 3-16 of his prepared direct testimony. On Page 5-6 he lists the five routing criteria used: "safety of the general public, use of existing utility and highway corridors, pipeline length,

construction costs, and environmental impact.”⁶ On Pages 7-8 he states the route selected would allow connection to Northern Natural Gas Co., uses an existing utility corridor, is the shortest route, presents no major construction obstacles and allows use of 16 inch pipe - both contributing to containing construction cost, has minimal environmental impact, and no impact on archaeological sites.

Specifically comparing Routes 2 and 3,⁷ on Pages 9-10 Mr. Dreesman says Route 3 was the second best choice, but was not selected due to its greater cost. Although only slightly longer, Route 3 would require 18 or 20-inch pipe instead of 16-inch, and would have required additional highway and pipeline crossings. He adds that pipeline crossings can create operation and emergency response problems, implying such crossings should be avoided where possible. He also states on Page 16 that none of the other routes would provide superior safety to Route 2.

Specific information on costs can be found at Exhibit F Revised Attachment 1, Table 1. It shows the estimated cost of Route 2 as \$12,553,000 and of Route 3 (using 20” pipe) as \$16,234,000; almost a 30% increase. Table 2 also says Route 3 would require 3600 more feet of boring than Route 2.

Although not specifically stated in the testimony or Exhibit F, it is apparent from the alternative route map included with Mr. Dreesman’s testimony, and from the Exhibit B map, that the additional highway crossings would include two crossings of US Highway 65; a four lane divided highway with a wide right-of-way. Exhibit B shows that the extra pipeline crossing would be of the Williams Pipeline corridor, which contains a 6-inch, two 12-inch, and a 24-inch pipeline, plus a 6-inch former pipeline now containing communications cable.

Although Routes 2 and 3 are generally compared as developed versus undeveloped routes, development east of Highway 65 has begun and is not insignificant. This is most visible on Pages 6 and 7 of Exhibit B. Staff understands from MidAmerican’s letter of March 26, 2002, that these aerial photographs were taken April 2, 2002. Attachment EAD, Page 6, of Mr. Dreesman’s testimony, is based on an aerial photo showing a wider area, and also shows the progress of development. It is not known if it uses the same photographs as used for Exhibit B. Also, although terrain is not mentioned in Mr. Dreesman’s testimony, the

⁶ Although not included on the list, the availability and cost of gas from the two competing pipeline suppliers was obviously also a factor in determining whether a route from the south or the north would be selected.

⁷ Route 2 is MidAmerican’s proposed route through Pleasant Hill, Route 3 is one of the alternative routes studied; it would bypass Pleasant Hill on the east side of Highway 65. The two routes are the same north of Pleasant Hill. In Mr. Dreesman’s testimony Route 2 is referred to as the “Direct Route” and Route 3 as the “Highway 65 Route.”

staff route inspection report noted that a route along the east side of Highway 65 would cross terrain more rugged than on the proposed route.

The deference to existing utility corridors in MidAmerican's routing criteria may seem self-serving to support the route through Pleasant Hill. But it is not without precedent. The Federal Energy Regulatory Agency, the agency that must approve the routing of interstate natural gas pipelines (such as Northern) has looked favorably on routes that parallel existing pipeline or power line rights-of-way, generally finding that such routes reduce environmental impacts including land use.⁸ And in Docket Nos. E-21043, E-21044, and E-21045 the Board found it reasonable to construct a new electric transmission line on existing electric right-of-way in Dallas, Warren, and Polk Counties, instead of developing new right-of-way, even though that route did not follow the division lines of land or railroad right-of-way given strong preference in Iowa Code Section 478.18. That decision was based in part on a finding that use of an existing route minimized interference with land use and the land area subject to easement.⁹

For Route 3 provide the number of property owners and the number of easements that would be needed, discuss development along Route 3, and provide a detailed comparison of the safety issues related to Routes 2 and 3 (Page 4). Witness Dreesman has provided a comparison of the number of property owners (84 on Route 2, 74 on Route 3) and easements needed (52 on Route 2, 48 on Route 3) on Attachment EAD Page 1, provided as part of his testimony.¹⁰

On Pages 3-4 of his prepared direct testimony Mr. Dreesman notes that while Route 3 is currently less developed, it is in the path of future development, while Route 2 is in an already established and restricted corridor that should see less construction activity. On Page 29-30 he again alludes to certain safety advantages to placing a pipeline in established neighborhoods. This argument presumes that excavation damage poses the greatest threat to the pipeline, and purports that in an area that is already developed, there would be less chance of construction activity that could endanger the pipeline.

Staff notes that it is more common for development to grow up around an existing pipeline than for a transmission pipeline to be constructed through a developed area. When development occurs near a pipeline, construction, including buildings, can be take place to

⁸ Alliance Pipeline Project - Final Environmental Impact Statement, FERC/EIS-0116, August 1998; Independence Pipeline and Market Link Expansion Projects - Final Environmental Impact Statement, FERC/EIS-0121, November 1999; Northern Border Project - Final Environmental Impact Statement, FERC/EIS-0110, June 1997.

⁹ "Decision and Order Granting Franchise," March 9, 1993.

¹⁰ Mr. Dreesman notes that the numbers for Route 3 are approximate because it has not been as well defined as Route 2.

the edge of the easement; with a 50 foot easement as is proposed for this pipeline that means construction could occur within 25 feet of the pipeline (absent other local land use restrictions). Construction equipment that strays onto the pipeline right-of-way could endanger the pipeline. Also, the presence of the pipeline may interfere with the layout of new development and the amount of grading and landscaping that can be done in conjunction with that development.

By staying on the electric line right-of-way, the pipeline will be within the 180 ft. wide electric line corridor. According to Exhibits H-28 and H-36, the pipeline would be 40 or 50 feet from the center of that easement, meaning it would be 50 or 40 feet inside an existing restricted use right-of-way. Because the area is already developed construction near the pipeline is less likely, and its presence would not conflict with development plans. Further, MidAmerican has added a number of special design provisions to enhance the safety of this pipeline in the developed area; a rural pipeline would probably not include such features. In short, the argument seems to be that where there is an established corridor through a developed area the pipeline may be safer than in an undeveloped area where new construction could occur.

Would MidAmerican be willing to accept an MAOP of 800 psig. As discussed on Page 4 of Mr. Dreesman's prefiled direct testimony, MidAmerican has elected to reduce the MAOP of the pipeline to 800 psig, but will still design and test for 960 psig; so there will be no design changes. Third revised Exhibit C now shows a maximum allowable operating pressure (MAOP) of 800 psig. The exhibit continues to show a design pressure of 960 psig. In any event, 800 psig continues to be the maximum pressure that would be available from the pipeline supplier, Northern Natural Gas Co., regardless of the MAOP assigned.

Address status of the road between the Pleasant Hill Energy Center and Greater Des Moines Energy Center. If MidAmerican does not own the road, it must file a petition for pipeline permit, or amend its petition in this docket, to cover the pipeline between the two energy centers. The road is identified as S.E. 45th St. in second revised Exhibit A, which implies it remains a public road. MidAmerican has amended its petition and exhibits to include approximately 0.2 miles of 16-inch diameter pipeline crossing that road.¹¹ This matter appears resolved.

Explain the information filed Confidential. The nature of this information and how it was used are discussed in the prefiled direct testimony of Edward Dreesman, on Pages 14-16. The information contained competitively sensitive tariffed charge data that was used as part of a total cost comparison between having the energy centers supplied by gas from Natural Gas Pipeline Company of America (NGPL) or Northern Natural Gas Company. Service from Northern was found economically preferable, plus it appears NGPL may have had

¹¹ See Petition and exhibit refilings made June 12, 2002, and the prefiled direct testimony of Edward Dreesman, Page 4.

operational constraints that made its service less attractive. This finding essentially eliminated alternative pipeline routes from the south that were predicated upon receipt of natural gas from NGPL.

Response to Staff Letter and Route Inspection

The May 22, 2002, ALJ order, on Page 3, directs MidAmerican to respond to the issues identified in a March 14, 2002, letter from Staff to MidAmerican, and a staff route inspection report of the same date. MidAmerican responded to all but one of these issues with a letter and revised petition exhibits filed March 27, 2002. In addition, staff was verbally advised that the lathe with pink ribbon found adjacent to Tract 16, that were similar to route markings, were unrelated to the pipeline project. Issues remaining following the information and revisions thus provided are covered in the April 26, 2002, Staff report.

The one unanswered issue concerned the reason for location of the connection to Northern Natural Gas. This was subsequently addressed in testimony as discussed below.

Response to Staff Report

The May 22, 2002, ALJ order, on Page 3, directs MidAmerican to respond to the issues identified in the April 26, 2002, Staff report. MidAmerican responded with a filing on June 12, 2002, that included a revised petition, replacement or amended petition exhibits, and supplemental and new prepared direct testimony. The issues as stated in the report, the MidAmerican response and staff review of that response follow.

a. Why the proposed pipeline parallels the Northern pipeline for half a mile, instead of connecting to the Northern pipeline half a mile further east.

Witness Dreesman addresses this issue on Pages 16-18 of his prepared direct testimony. The site of the connection point, or Town Border Station (TBS), is to be purchased by Northern and Northern will construct the TBS. Moving the site east would apparently have significant engineering and cost implications.

The record is not clear on exactly what additional facilities Northern must construct in support of this project. What staff believes is occurring was necessary because Northern's line changes from a 16-inch to a 10-inch pipeline south of Ankeny. The 10-inch line could not transport sufficient volumes for the energy centers on top of existing load.¹² Therefore Northern will "loop" the 10-inch pipeline with a new 12-inch parallel pipeline from the size transition to the new TBS, a distance of approximately three miles. Moving the TBS a half mile east would require Northern

¹² The Northern 10-inch pipeline continues east from this point to serve ten communities including Altoona, Newton and Grinnell.

to build an additional half mile of 12-inch pipe, and the additional cost would impact the proposed tariff that MidAmerican has negotiated.

Mr. Dreesman's testimony further notes that a site to the east would require a road be built on private property, impacting more land and creating an additional future maintenance expense (the proposed site is adjacent to and accessible from a county road). MidAmerican originally considered a more direct pipeline route southeast from the TBS, but at landowner request changed it to follow the Northern pipeline and subsequently a railroad. It appears to staff that had MidAmerican followed a diagonal route southeast from the TBS, the total length of the pipeline could have possibly been reduced by around 0.4 mile. However, as noted on Page 4 of the April 26, 2002, Staff report, the proposed route appears to minimize interference with existing and future land use in this area.

b. MidAmerican's Exhibit F statement on weld inspection needs to be clarified. (Page 8)

In Second Revised Exhibit F this item was changed to read "Quality Assurance Program exceeds minimum requirements, including 100% x-ray of field welds." No supporting testimony was found explaining the Quality Assurance Program or in what manner it exceeds minimum requirements.

c. MidAmerican is asked to clarify its Exhibit F statement on the intended use of directional drilling. (Page 8)

This is covered on Pages 5-8 of the supplemental direct testimony of MidAmerican witness Dean Degenhardt. He describes directional drilling and lists six locations where it would be employed.

Two of the locations to be drilled address questions raised in the March 14, 2002, staff route inspection report. The report expressed concern that construction might inconvenience activities at two commercial buildings along Highway 65 (Tracts 25 and 26); directional drilling should minimize disturbance. The report also noted that there had been considerable residential encroachment onto the electric line easement between Pine Valley Drive and Partridge Avenue in Pleasant Hill. Directional drilling through this area would eliminate the need to remove yard fences and outbuildings, thus minimizing disturbance of the neighborhood. In addition, the Four Mile Creek crossing would be bored, minimizing environmental disturbance and impact on the adjacent flood control levee.

It is noted that at these two locations the bores would be of substantial length at around 1000 and 1750 feet in length.

d. MidAmerican is asked to clarify its Exhibit F statement that Northern's portion of the line will be designed to Class 3 design requirements. (Page 9)

In Second Revised Exhibit F this statement was replaced with “The northern portion of MidAmerican pipeline will be designed to Class 3 design requirements.” This eliminates the former confusing language that appeared to refer to the Northern Natural Gas pipeline.

e. MidAmerican is asked to explain which other pipeline operators also would be involved with emergency response training. (Page 9)

MidAmerican witness Dreesman addresses this issue on Page 25 of his prepared direct testimony. The other pipeline companies are Koch, Kinder Morgan, and Williams. These companies have hazardous liquid transmission pipelines within the corporate limits of Pleasant Hill. Staff does not have complete information on the products carried by these pipelines, but understands they include crude oil, refined petroleum products, and propane. Appropriate emergency response to a pipeline leak or failure would vary depending on whether natural gas or liquids are released, and the nature of the liquid. Staff agrees that coordinated training of local emergency responders involving all the area pipeline companies would be beneficial.

f. MidAmerican needs to explain how the pipeline will be designed to accommodate the passage of internal inspection devices. (Page 9-10)

Pages 1-4 of the supplemental direct testimony of MidAmerican witness Dean Degenhardt provide this explanation. The pipeline would be constructed with long radius bends and full opening valves, which would allow the passage of internal inspection devices. Launchers and receivers would not be installed at this time, but end point facilities would be constructed so they could easily be added, and without the need to shut down the pipeline.

g. MidAmerican needs to explain, for that portion of the route paralleling an electric transmission line (Page 10):

- i. How the pipeline will be protected from fault currents or lightning strikes grounded by the electric line.*
- ii. How corrosion control measures will be protected from interference from induced electrical currents or charges from the electric line.*

The response to this question is contained in the direct testimony of David Schramm. The testimony indicates that the presence of the electric transmission line was considered in the design and construction specifications for this pipeline. The federal regulations at 49 CFR Part 192.467(f) contain only general guidelines on such practices. ASME B31.8 - 1999, “Gas Transmission and Distribution Piping

Systems,” in Section 862.114(b), contains somewhat more specific criteria.¹³ It appears from the testimony of Mr. Schramm that this project would comply with both these standards.

On Pages 6 of his testimony, Mr. Schramm describes the precautions that would be taken during construction to prevent hazard to workers from capacitive coupling. This could also be a hazard if future maintenance or repair work requires separating the pipeline. ASME B31.8-1999 Section 873 says the following precautions shall be taken where gas pipelines parallel overhead electric transmission lines on the same right-of-way:

873.1 Employ blowdown connections that will direct the gas away from the electric conductors.

873.2 Install a bonding conductor across points where the main is to be separated and maintain this connection while the pipeline is separated. The current carrying capacity of the bonding conductor should be at least one-half the current carrying capacity of the overhead line conductors.

Provisions incorporating the above precautions were not found in MidAmerican’s current “Gas Operating Standards Manual.” MidAmerican should incorporate these procedures (the intent, not necessarily this exact language) into its Manual prior to operating this pipeline.

h. Security precautions. MidAmerican should consider if this information should be filed confidential. (Page 10)

This is addressed on Pages 4-5 of the supplemental direct testimony of MidAmerican witness Dean Degenhardt. The information was not filed Confidential. At the Northern TBS, MidAmerican will install nighttime illumination, Northern will install a six foot chain link fence with locking gate, plus the site is adjacent to a public road. The valves on the route will be buried and inside six foot fences with locking gates, and are adjacent to roads and residences. The termini at the south end will again be inside a six foot fence with locking gates.

It appears to Staff that the buried pipeline in residential areas would be an unlikely security risk. With a burial depth of five feet, in open areas readily visible by area residents and passersby, it seems an inopportune area for any effort at sabotage. The highest risk areas would be where there are above ground facilities, where terrorists intent on disrupting electric generation would have far easier access to the pipeline.

¹³ This American Society of Mechanical Engineers standard is adopted by reference in both federal and Utilities Board pipeline regulations.

The security precautions at above ground facilities are rather minimal. The fencing is less than ANSI C-2, the National Electrical Safety Code, Section 110, requires for an ordinary electric substation. Locking gates typically are secured by a chain and padlock, which could be defeated by a determined person with a bolt cutter within a minute. And since for remote valve operation and other purposes MidAmerican would have electronic communication with the TBS, motion sensors are another possibility.

However, there are currently no regulations that require facilities such as the TBS be enclosed or secured at all (other than locks on valves, most of which are also easily defeated with a bolt cutter), let alone any criteria for fencing, locking, or other forms of protection. The measures MidAmerican proposes are beyond any current regulatory requirements.

i. MidAmerican needs to present evidence to support condemnation of right-of-way width in excess of 75 feet at certain locations. (Page 12)

This is addressed on Pages 8-12 of the supplemental direct testimony of MidAmerican witness Dean Degenhardt. For each location where an easement wider than 75 feet is sought he describes the additional space needed to accommodate boring or directional drilling equipment, or to install more gradual bends at corners. The testimony calls this space “additional construction easement.” Exhibit H shows the additional space at these locations as “temporary easement,” indicating this space is needed only during construction and would not be part of the permanent easement.

j. MidAmerican needs to make a showing that it has made good faith efforts to obtain voluntary easements for right-of-way. (Page 12)¹⁴

¹⁴ While efforts to obtain voluntary easements are encouraged, the Board has little authority over the manner in which easement negotiations are conducted. In Docket No. P-831, “Proposed Decision and Order Granting Permit” issued November 9, 1995, the Administrative Law Judge found: “The conduct and course of negotiations for voluntary right-of-way easements is of very limited relevance to a permit proceeding. A petitioner may not negotiate for a voluntary easement until it conducts an informational meeting. IOWA CODE § 479.5 (1995) A showing that the petitioner made some reasonable effort to obtain a voluntary easement is probably required to support a finding that a taking by eminent domain is “necessary.” But these minimal requirements are the limit of the board’s inquiry into the petitioner’s negotiations. Other considerations, including the petitioner’s willingness to compromise and the sufficiency of compensation offered for the easement, are of no legal consequence to the issues that must be addressed in this proceeding. See Race v. Iowa Electric Light and Power Company, 257 Iowa 701, 134 N.W.2d 335, 337 (1965). This order was appealed, but this issue was not raised on appeal or further addressed in the January 18, 1996 “Order Affirming Proposed decision and Order.”

This is addressed on Page 5 of the supplemental direct testimony of MidAmerican witness Kenneth Schwarz. He states that an average of 9, with a minimum of 6, landowner contacts have been made with landowners who have not signed easements.

Contact alone does not guarantee a good faith effort is being made to obtain voluntary easements. But the continuing decline in the number of eminent domain parcels indicates these contacts have been substantive.

The objection filed by Ms. Catherine Kile alleges that good faith efforts have not been made. Her objection was filed after Mr. Schwarz's testimony and MidAmerican has not yet had opportunity to respond to her statements.

k. Respond to the objections filed. (Page 12-13)

This is discussed on Page 4 of this report.

l. Portions of the testimony prefled with the original petition are in need of updating or revision. (Page 13)

The supplemental direct testimony of Jack Alexander explains that, besides serving the proposed Greater des Moines Energy Center, it would also serve the existing Pleasant Hill Energy center turbines, providing not only fuel but emissions benefits over the current use of fuel oil, and would also support the gas distribution system in the area. Also, persons adjacent to the pipeline that do not presently have access to natural gas would have the opportunity to obtain service as "farm tap" customers."

The supplemental direct testimony of David Grigsby corrects several apparent errors in his original testimony.

Further Consideration of Safety Issues

With the additional information filed since the prior report staff finds the project design and the operation and maintenance proposals discussed meet or exceed required safety standards. However, staff does propose that MidAmerican incorporate into its operating procedures two precautions, specifically applicable to pipelines in common right-of-way with electric transmission lines, from ASME B31.8-1999 Section 873. See discussion on Pages 10 and 11.

In addition, it appears natural gas transmission pipelines will soon be subject to a new class of Integrity Management regulations currently under development by the federal Research and Special Programs Administration's (RSPA) Office of Pipeline Safety in Docket No. RSPA-00-7666. RSPA has stated:

RSPA's goal in developing the gas pipeline integrity management rules is to provide the regulatory structure required for operators to focus their resources on improving pipeline integrity in the areas where a pipeline failure would have the greatest impact on public safety.¹⁵

The proposed rule provides a foundation for an improvement in public confidence. It would require operators to implement inspection and assessment programs directed at identifying the causes of major pipeline accidents summarized above, and other potential causes of pipeline accidents, and correcting them before pipeline accidents can occur.¹⁶

In proposals currently being advanced transmission pipelines in Class 3 areas, such as the one MidAmerican is proposing in this docket, would be subject to these rules.

The most serious transmission pipeline accidents in recent years have been caused by unknown, unsuspected pipeline defects (prior 3rd party damage to the pipe, internal corrosion). In its current regulations OPS seeks to prevent defects in pipelines from occurring (ie; construction, corrosion control, damage prevention standards), or it seeks to find leaks before they can have serious consequences (leak surveys, patrols, odorization). The paucity of regulations on finding defects before they become leaks or failures is primarily due to technological limitations - no way to find them. But that is changing. Instrumented internal inspection devices that can detect defects continue to improve. New methods in development purport the ability to detect defects or damage without the need to run devices through the pipeline; such methods are generally referred to as "direct assessment" methods. If these two methods are impractical periodic pressure testing may be required. New federal regulations that incorporate new technologies and methods for earlier detection of potential problems in high consequence areas show promise for further increasing the safety of pipelines.

The depth of cover in agricultural land information on MidAmerican's Exhibit F Revised Table 8 also warrants clarification. The federal pipeline safety standards at § 192.327(a) require a minimum of 30 inches of cover in Class 1 locations and 36 inches in Class 3 locations. As part of its Class 3 design MidAmerican would use 36 inches. Board rules adopt a stricter requirement of 48 inches in 199 IAC 10.12(3). The purpose of this additional depth was that 30 inches was considered inadequate for modern deep tillage farm equipment. However, to stay below agricultural drain tile the practical depth for construction in agricultural land is commonly considered 5 feet, which is what

¹⁵ Docket No. RSPA-00-7666, Notice 3, 67 FR 1108, January 9, 2002.

¹⁶ DOT/RSPA "DRAFT Final Regulatory Evaluation - Pipeline Integrity Management in High Consequence Areas (Gas Transmission Pipelines). Although still labeled draft it has been posted on the OPS website at <http://ops.dot.gov/new.htm>.

MidAmerican proposes. The extra depth may also prove advantageous if urban development occurs adjacent to the pipeline.

In Second Revised Exhibit F MidAmerican lists 12 pipeline safety measures it proposes to adopt for this project, including five (#7, 8, 10, 11, and 12) that would take place after construction. Odorization (#8) is already required by § 192.625, but the rest are not, or at least not specifically. If the proposed project and route are approved, the order granting permit should specifically list at least the four remaining future items as conditions upon which the permit is granted. Specific listing is seen as a way to enhance both the visibility of these provisions, and their enforceability.

Further Consideration of Routing Issues

MidAmerican states it selected this route because it was the shortest, had few physical obstacles, and could use 16-inch pipe, all of which contributed to this being the lowest cost option. Staff finds the proposed route reasonable from an engineering and pipeline safety code compliance standpoint. However, area residents are concerned about the safety implications and prudence of locating such a pipeline in an established urban area.

There has been little controversy over the route from the TBS to the area north of Pleasant Hill. MidAmerican has responded to the question of why it parallels the Northern pipeline for half a mile (See Pages 8-9 of this report). Although the extra safety precautions proposed for Pleasant Hill would not apply to this area, it would be constructed to Class 3 standards in anticipation of future urbanization. As discussed in the prior staff report, the route appears to minimize interference with land use. Silver Land Company alleges, “there are other routes available that would be less disruptive and affect fewer landowners.” However, they do not identify where such routes might be, nor is it apparent to staff where such routes might be. It appears the impact on agricultural land uses or future development would be similar on about any route through the general area north of Interstate 80 where Silver Land Company has property.

The route through Pleasant Hill is more controversial. As discussed in the prior staff report (Page 4) there are dozens of residences and commercial buildings adjacent to the route, some within 100 feet, and the route includes a city park. Sixteen objections have been received from Pleasant Hill resident, with safety concerns a common theme.

MidAmerican has responded to these concerns with a 12-point program of safety precautions, most of which are in excess of code requirements, and which include a pipe wall thickness in which stresses will be below the rupture threshold for the proposed MAOP. MidAmerican has advanced the theory that there are certain safety advantages to the public as a whole when a pipeline is located in an established urban setting rather than in an area that may undergo development. In addition, MidAmerican will use directional drilling to minimize disturbance to a residential area where back yard fences and outbuildings extend into the pipeline area.

The federal pipeline safety standards contain stricter criteria for pipelines in urban areas, but do not prohibit or otherwise restrict their placement there. OPS estimates that 7% of current natural gas transmission mileage, or 20,440 miles, is in Class 3 or 4 locations.¹⁷ This would include both locations originally constructed in developed areas and those originally constructed in rural areas that were subsequently developed. OPS is considering Integrity Management regulations to further enhance the safety of such lines.

Staff is not immediately aware of other natural gas transmission pipelines in Iowa in locations comparable to Pleasant Hill. The closest would be the Davenport area, which has a 425 psig feeder main system. Hazardous liquids pipelines in urban areas are more common. Examples include multiple pipelines on the Williams Pipeline right-of-way in Pleasant Hill, Altoona, Mason City, Iowa City, West Branch and Bettendorf. This includes pipelines operating at pressures in excess of 1000 psig.¹⁸ Other hazardous liquid pipelines are found in West Des Moines, Council Bluffs, and Sioux City. Most of these pipelines predate the federal pipeline safety standards, which derive from Congressional action in 1968.

Summary/Conclusions

1. MidAmerican appears to have reasonably responded to the issues raised in the staff reports and the ALJ's May 22, 2002, order. In this report staff has added commentary to the information provided by MidAmerican to clarify and improve the record where deemed appropriate.
2. MidAmerican should be asked to explain at hearing:
 - a. Why the length of the pipeline changed from 12.6 to 12.9 miles when the additional pipe at the south end, now added to this petition, only accounts for 0.2 miles of the difference.
 - b. How its Quality Assurance program during construction would exceed minimum requirements.
3. With the clarifications and additional information provided staff concludes that the proposed project meets or exceeds the requirements of the technical standards adopted by the Board. However, for a pipeline paralleling an electric transmission line MidAmerican should include in its Gas Operating and Maintenance Manual the intent of the following precautions from ASME B31.8-1999, Section 873:

¹⁷ DOT/RSPA "DRAFT Final Regulatory Evaluation - Pipeline Integrity Management in High Consequence Areas (Gas Transmission Pipelines).

¹⁸ Iowa State Commerce Commission Docket No. P-33, Inspection Report - Inspection of Williams Pipeline Company Construction and Operating Records, March 15, 1984.

Employ blowdown connections that will direct the gas away from the electric conductors.

Install a bonding conductor across points where the main is to be separated and maintain this connection while the pipeline is separated. The current carrying capacity of the bonding conductor should be at least one-half the current carrying capacity of the overhead line conductors.

4. If the project and route are approved, the order granting permit should specifically list as conditions of the permit the four post-construction measures not specifically required by pipeline safety standards that MidAmerican states in Exhibit F it will take to enhance safety. These Items are:

#7. Four times per year leak survey in populated areas.

#10. Line will be monitored for flow and pressure.

#11. MidAmerican will provide emergency response training to local emergency responders and coordinate this training with the other pipeline operators within Pleasant Hill.

#12. MidAmerican will provide brochures and conduct meetings with local residents to inform them of gas safety issues and promote awareness.

5. The record indicates the primary reason MidAmerican selected Route 2 over Route 3 is an approximately 30% cost difference. The principal reasons for the difference appear to be slightly longer length, the need to use larger diameter pipe, and additional highway and pipeline crossings.

6. MidAmerican raises an interesting argument that locating a pipeline in a developed area may have a safety advantage for the public at large over installing it in an area subject to development. The primary advantage would be a reduced risk of damage from construction activities. Another possible advantage would be less interference with future land use.

7. Staff finds the security precautions proposed by MidAmerican rather minimal, but current safety codes contain no standards in this area.

8. Two additional objections have been filed since MidAmerican filed its latest testimony. MidAmerican should be prepared to address the objections filed by Ms. Catherine Kile and Silver Land Company at hearing.

9. Staff has explored additional issues relating to transmission pipeline routes through developed areas. Such pipelines, while a distinct minority, are not unique.